



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

W

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/662,740	09/15/2000	Francois Sawyer	27950-453	3556
27902	7590	06/15/2005		
ERICSSON RESEARCH CANADA 8400 DECARIE BLVD. MONTREAL, QC H4P 2N2 CANADA				EXAMINER CHANG, EDITH M
				ART UNIT 2637
				PAPER NUMBER

DATE MAILED: 06/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	09/662,740	SAWYER, FRANCOIS
	Examiner Edith M. Chang	Art Unit 2637

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 20 January 2005.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-15, 18-24, 26-30, 32-35 and 38-45 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) 35, 38 and 41 is/are allowed.
- 6) Claim(s) \_\_\_\_\_ is/are rejected.
- 7) Claim(s) 1-15, 18-24, 26-30, 32-34, 39-40, 42-45 is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 15 September 2000 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 20050120.
- 4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
 5) Notice of Informal Patent Application (PTO-152)  
 6) Other: \_\_\_\_\_.

## DETAILED ACTION

### *Drawings*

1. Figure 1 to Figure 4 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See 1VIEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.
2. The drawings are objected to because in Figure 5, a first input signal arrow labeled as numeral 15 and a second input signal arrow labeled as numeral 58 to the RECEIVER CHAIN 50 should be added; and in Figure 6, a first input signal arrow labeled as numeral 15 and a second input signal arrow labeled as numeral 68 to the RECEIVER CHAIN 50 should be added to indicate the invention subject matter recited in the claims. Corrected drawing sheets in compliance with 37 CFR 1.121 (d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the

Art Unit: 2637

replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Objections***

3. Claims 1-15, 18-24, 26-30, 32-34, and 39-40, 42-45 are objected to because of the following informalities:

Claim 1, line 8: "the image" is suggested changing to "the image representative"; and line 15: "the receiver" is suggested changing to "the signal-processing receiver chain".

Claim 2, line 3: "one image" is suggested changing to "one image representative"; and line 14: "the receiver" is suggested changing to "the signal-processing receiver chain".

Claim 3, line 3: "one image" is suggested changing to "one image representative".

Claims 6 & 7, line 2: "one image" is suggested changing to "one image representative".

Claim 9, line 8: "one image" is suggested changing to "one image representative".

Claim 11, line 2: "the quality-indicative parameters are BER measurements" is suggested changing to "the quality-indicative parameters are Bit Error Rate (BER) measurements".

Claim 15, line 11: "every" is suggested changing to "each".

Claims 18 & 23, line 9: "the quality-indicative parameters are BER measurements" is suggested changing to "the quality-indicative parameters are Bit Error Rate (BER) measurements".

Claim 19, line 4: "the plurality" is suggested changing to "one of the plurality"; lines 4-5: "the features of the plurality of images" is suggested changing to "a feature of said image"; and line 6: "every subtraction signal" is suggested changing to "said subtraction signal".

Claim 20, line 2: "said one image" is suggested changing to "said image"; line 3: "said one image" is suggested changing to "said image"; line 4: "selection" is suggested changing to "selecting", "every" is suggested changing to "said".

Claim 21, line 16: "the image" is suggested changing to "the interferer image".

Claim 22, lines 2-3: "the image" is suggested changing to "the interferer image".

Claim 24, line 9: "the image" is suggested changing to "the image representative".

Claim 26, line 5: "and thereby" is suggested changing to "to thereby".

Claim 34, line 9: "the image" is suggested changing to "the image representative".

Claim 39, lines 2-3: "the features of the plurality" is suggested changing to "a feature of one of the plurality"; line 4: "of the subtraction signal corresponding the plurality of images" is suggested changing to "of one of the subtraction signals corresponding to the image"; and line 5: "every' is suggested changing to "the".

Claim 42, line 16: "image" is suggested changing to "interferer image".

Claim 45, line 17: "image" is suggested changing to "interferer image".

Claims 4-5, 8, 10, 12-14, 26-30, 32-33, 40, and 43-44 are directly or indirectly dependent on the objected claims 1, 15, 21, 24, 35 and 42. Appropriate correction is required.

*Allowable Subject Matter*

4. Claims 35, 38 and 41 are allowed.
5. Claims 1-15, 18-24, 26-30, 32-34, and 39-40, 42-45 would be allowable if rewritten to overcome the objection(s), set forth in this Office action.
6. The following is a statement of reasons for the indication of allowable subject matter:

Claims are allowable over prior art of record because the prior art of record does not teach or suggest, alone or in a combination, among other things, at least a method for attenuating an interferer and the device as a whole, the combination of elements and features as claimed, which includes generating at least one image of a replica of the

interferer from the substantially know spectrum and independently of the signal received; selecting one of the processed received signal and the subtraction signal which is the signal by subtracting the image of the replica from the processed received signal, and the selecting is based on the computed values of the quality indicative parameter of the processed received signal and the subtraction signal.

***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The references of Bottomley and Hulbert et al. describe the apparatus and method of interference cancellation.
8. This application is in condition for allowance except for the following formal matters: as listed in the drawing and claim objection sections, prosecution on the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11, 453 O.G. 213.

A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edith M. Chang whose telephone number is 571-272-3041. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jayanti Patel can be reached on 571-272-2988. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Edith Chang

May 31, 2005

  
**BETSY L. DEPPE**  
**PRIMARY EXAMINER**